NOFO INFORMATION SHEET FOR THE "JOINT TECHNOLOGY TRANSFER INITIATIVE" FY2022 COMPETITION

Information about the JTTI Program:

National Oceanic and Atmospheric Administration (NOAA) collaborates with the American Weather Enterprise on cooperative research activities and provides financial support to transition weather technologies from the American Weather Enterprise to NOAA's National Weather Service (NWS) operations through several funding programs. The Joint Technology Transfer Initiative (JTTI), created by the Congress in 2016, is one such program to accelerate the transition of matured weather research to NWS operations. The mission of the JTTI is to ensure continuous, cost effective development and transition of the latest scientific and technological advances into NWS operations. Within NOAA's Office of Oceanic and Atmospheric Research (OAR), the Weather Program Office (WPO) manages and implements the JTTI program in close collaboration with the NWS.

Projects that are suitable for the JTTI program should be mature enough to transition to NWS operations within the next 3-5 years. As such, projects that are most suitable for this competition are at Readiness Level (RL) 4 or above, which means the concept has been already developed and validated in their own or another laboratory environment and is ready to be tested in a NOAA pseudo-operational environment. Prototype development suitable for the UFS is allowed. As per NAO 216-105B, NOAA uses Readiness Levels to track the progress of the Research to Operations transition projects. For a full description of NOAA Readiness Levels, applicants are directed to the NOFO for this competition and announcement in Appendix A of this NOFO. Applicants are encouraged to understand the Readiness Level of their project and assign the appropriate RL for the project. Projects that are in exploratory stage or addressing basic research (RLs less than 4) are not suitable for the JTTI competition. However, these projects may be suitable for other competitions of this associated NOFO.

Information on JTTI Program Priorities:

This year's JTTI competition is focused on three main themes: (i) In collaboration with the UFS community (https://ufscommunity.org/) and/or the UFS/R2O Project (https://www.weather.gov/media/sti/UFS-R2O-Project-Proposal-Public.pdf), further develop, test and enhance data assimilation (DA) techniques, improve model component coupling techniques and capabilities, enhance physics suites, improve evaluations and post-processing techniques and tools, and utilize Artificial Intelligence/Machine Learning (AI/ML) for improving the forecasts on short range weather, medium range weather and subseasonal time scales, (ii) Further develop innovative methodologies to assess and identify underserved communities and understand their needs, vulnerabilities, and challenges with respect to the communication and dissemination of NWS products and services related to extreme weather and water events, and (iii) Further

develop innovative scientific and technological solutions to improve NWS forecasts, products, services, and Decision Support Services (DSS) for extreme weather and water events in collaboration with NOAA Testbeds and Proving Grounds.

Detailed program priorities are identified in the program priorities section IB of this NOFO. Proposals must address at least one of the priorities listed in the priorities section of the NOFO and must be at Readiness Level 4 or above. Applicants of proposals addressing priority JTTI-1 are highly encouraged to consult the UFS R2O project and the UFS R2O team members in developing their proposals.

Information on Testing and Evaluation:

Typically, a transition project follows the development, demonstration and deployment phases. Therefore, projects must have an effective test and evaluation plan to demonstrate the value of the outcome of the project to the community. Applicants are highly encouraged to contact the respective testbed managers (https://www.testbeds.noaa.gov/) to assess the suitability of the project to test in that particular testbed and visit section IV.B.2.h of this NOFO for details on collaboration and submission requirements. If the proposal is funded, in coordination with the testbed manager, the PIs are required to develop a test plan within six months of the project start date. Transition projects will be assigned a Point of Contact (POC) from the NWS to shepherd the transition process. Additionally, the PIs, in coordination with the NWS POC, are required to develop a high level research to operations transition plan within six months of the project start date.

Although the deployment phase of the project (i.e advancing from RL 8 to RL 9) is not part of this funding call, projects must have an end goal where the outcome of the project is planned to be implemented. Investigators must identify a NWS receiving office where the outcome of the project is planned to be implemented. As such, investigators are highly encouraged to collaborate with NWS scientists and visit section IV.B.2.h of this NOFO for details on submitting a collaboration acknowledgement form. Investigators are also highly encouraged to identify a clear transition path demonstrating the value of the deliverable(s) through evaluation in one of the testbeds or other evaluation mechanisms, with a receiving office in the NWS, along with collaborators from NWS.

Guidance on Proposal Evaluation:

During the review process, reviewers will focus, among other evaluation criteria, on a project's transition ability after funding has expired, how the final deliverable(s) would better serve the weather community and the public as a whole, and the feasibility of integrating the final deliverable(s) into a NWS operational unit. Therefore, it is in the best interest of the applicants to demonstrate how their project meets those goals in their proposal. Projects that do not demonstrate a strong possibility of transition to operations after funding expires, or primarily

support a concept that is hyper-localized (i.e. “stovepiping”), rather than national, will be rated lower by reviewers.

To better understand the needs and environment of the weather enterprise, applicants are encouraged to form collaborations with an operational center, especially those within the National Weather Service where a project’s final deliverable(s) could reside if selected for transitioning after funding expiration. The collaboration should be supported with evidence, such as a signed letter of support or the inclusion of a staff member as a non-paid collaborator, pursuant to the eligibility requirements described in this NOFO. The importance of operational collaboration is emphasized in the evaluation criteria that reviewers will use to evaluate applications. If the proposal includes a plan to utilize a testbed for project demonstration/collaboration purposes, applicants are required to state their intentions clearly in their statement of work.